MAY, 1895.

Insulating Materials.

VULCABESTON

CONTROLLER PARTS,

FIELD SPOOLS,

BUSHINGS, ETC.

MOULDED MICA

TROLLEY LINE INSULATORS,

WEATHER-PROOF SOCKETS, ETC.

H. W. JOHNS M'F'G CO.,

170-172 NORTH 4th ST., PHILADELPHIA.

NEW YORK.
JERSEY CITY. CHICAGO.
PHILADELPHIA. BOSTON.
LONDON.

INSULATING MATERIALS,

H. W. JOHNS MANUFACTURING CO.,

INDEX.

MAY, 1895.

LINE INSULATORS.

No. 1 BELL HANGER.

No. 1, bell insulator, with malleable iron yoke and hinged ear, for 4 B. W. G. trolley wire, complete..	85c.
No. 2, Bell.....	50c.
No. 3, Malleable iron yoke.....	10c.
No. 601, Ear and stem ($1\frac{7}{8}$ inch screw stud) 4 B. W. G.	25c.

IRON CLAD BELL HANGER.

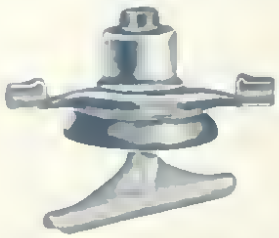
No. 51, Complete, for No. 4 B. W. G. with hinged ear, No. 601.....	75c.
No. 52, Complete, for 0 B. & S., with hinged ear No. 602..	85c.
No. 55, Iron Clad Bell, alone.....	40c.

CAP AND CONE

FORMS OF INSULATION MADE OF MOULDED MICA.

No. 4, S 80 and S 81, $\frac{7}{8}$ in. screw stud.....	55c.
No. 5, S 74 and S 75, " " "	60c.
No. 6, S 103 and S 104, " " "	55c.
No. 7, S 103 and S 104, $\frac{5}{8}$ in " "	60c.

7-16 INCH SWIVEL HANGER and PULL-OVERS.



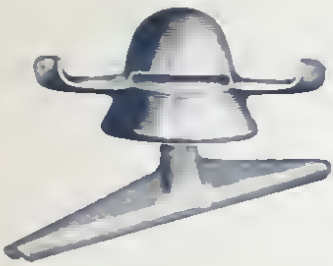
This is a strong and light hanger, insulated with Moulded Mica. The loose collar allows the ear to be screwed tight to the hanger. Furnished with $\frac{7}{8}$ inch screw stud only.

No. 130, $\frac{7}{8}$ inch Swivel Hanger, without ear.....	$ .55
No. 131, " with 7-inch ear, No. 605.....	.78
No. 310, Single Swivel Pull-over, without ear.....	.80
No. 311, " " " " with ear, No. 605....	1.03
No. 315, Double Swivel Pull-over, without ear.....	.90
No. 316, " " " with ear, No. 605...	1.13

LINE INSULATORS.

"ROUND TOP" HANGER.

(PATENTED.)



An exceedingly strong form of insulator in metal shell, which thoroughly protects the Moulded Mica insulation from blows of the trolley wheel. The screw stud is ⅝ inch steel. This insulator is a standard and has been largely used by prominent street railway companies and engineers.

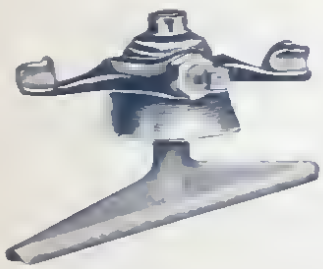
No. 100, "Round Top," mall. iron shell, without ear... $ .72

No. 110, "Round Top," brass shell, without ear..... 1.10

No. 112, "Round Top," Feed In Hanger, brass, without ear 1.50

5-8 INCH SWIVEL HANGER.

(PATENTED.)



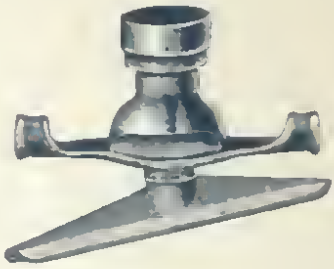
This hanger is insulated thoroughly with both sheet mica and Moulded Mica, and all parts are designed for durability and the strongest construction. The swivelled collar permits the insulator to be screwed to a shoulder and assures a rigid connection between hanger and ear. Furnished from stock with ⅝-inch steel screw-stud.

No. 140, ⅝-Inch Swivel Hanger, without ear..... 85c.

For list of Ears and Mechanical Clips, see pages 6 and 7.

LINE INSULATORS

"J.-P." HANGER.



This form of hanger has become well-known. As furnished by us it is light and strong and possesses most desirable features.

The insulated plug consists of a steel drop-forging, with standard ⅝-inch thread, and is insulated with Moulded Mica in a superior manner.

No. 60, "J-P" hanger, brass, complete without ear..... $1 35
No. 62, "J-P" Moulded Mica insulated plug..... .40

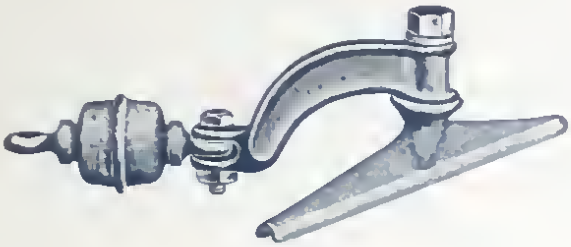
"J-P" PULL-OVERS.

No. 64, "J-P" single pull over brass, without ear. $1.41
No. 65, " double " " " " " 1.50

For list of Ears and Mechanical Clips, see pages · and

SINGLE GIANT PULL-OVER.

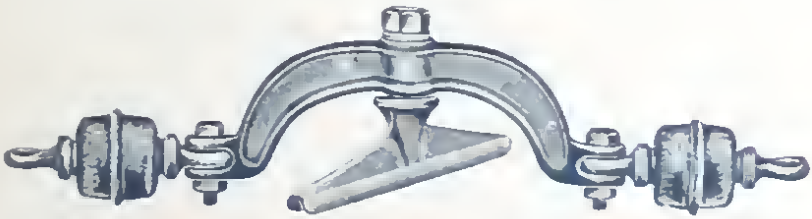
(PATENTED.)



No. 345, Single Giant pull-over, without ear..... $ .90

DOUBLE GIANT PULL-OVER.

(PATENTED.)



No. 355, Double Giant pull-over, without ear.. . . . $1.60

These pull-overs consist of a substantial malleable iron yoke, adjusting bolt for attaching ear in any desired position, and No. 2 Giant strain insulators for strain-wire attachments. They are suitable for constructions of the strongest and most permanent character.

For List of Ears and Mechanical Clips, see pages 3 and 4

"J-P" BARN OR BRIDGE HANGER.

Made of brass, with Moulded Mica insulated plug. The drop of the trolley wire below the beams is five inches.

No. 65, "J P" barn hanger, brass, without ear..... ....$1.35

ROUND TOP BARN OR BRIDGE HANGER.

(PATENTED)

This Barn Hanger embodies the features of the Round Top Hanger and possesses similar advantages. The drop of the trolley wire below the beams is five inches.

No. 208, Round Top Barn Hanger, without ear,. . .80c

SOLID SLEEVE BRACKET ARM HANGER.

Consisting of a solid sleeve with two set screws and hinged Round Top bell, similar to that illustrated on page 7.

Furnished only for 1¼ inch pipe-arm, ⅜ inch stud.

No. 460, Solid Sleeve Bracket arm hanger, without ear. .$1.25

For list of Ears and Mechanical Clips, see pages 8 and 9.

"J-P" BRACKET ARM HANGERS.

No 67

The sleeve in No. 67 is solid (not split) as shown. The sleeves in Nos. 68 and 69 are split and hinged so that only one bolt is required in attaching to bracket arm.

No 67, with solid sleeve for 1¼ in. pipe, without ear.....$1.85
No. 68, with hinged sleeve for 1½ in. pipe, without ear.. 1.85
No. 69, with hinged sleeve for 2 in. pipe, without ear..... 1.90

No 68

HINGED SLEEVE BRACKET ARM HANGER.

This Bracket Arm Hanger is a Round Top bell, hinged to the malleable iron sleeve, to provide a flexible attachment between trolley wire and hanger.

The sleeve has a hinged cap and is attached to the arm by a single bolt.

This hanger can be used on curves.

Screw stud, ⅝-inch.

No 451. Hanger, for 1½ inch pipe, without ear..... $1.25
No. 456. Hanger for 2 inch pipe, without ear..... 1.35

SPLIT SLEEVE BRACKET ARM HANGER.

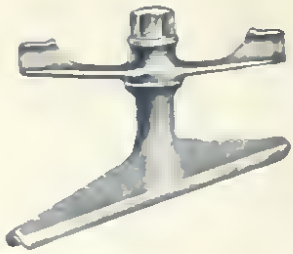
This is a rigid hanger and is designed for the omission or insertion of an insulating sleeve between the metal sleeve of the hanger and the bracket arm, thus providing for a double insulation, if desired. Screw stud, ⅝ inch.

Specify whether hanger is wanted for single or double insulation.

No. 500, Hanger, for 1½ inch pipe, without ear.....$1.50
No. 530, Hanger for 2 inch pipe, without ear 1.50

For List of Ears and Mechanical Clips, see pages 8 and 9

FEED-IN HANGER.



For span wire composed of feed-wire. Consists of uninsulated yoke and ear.

No. 31, Yoke, brass, complete with ⅝ inch bolt..... .42

No. 32. Feed-in hanger, 9 inch ear. No. 615 ..... .70

No 33, Feed-in hanger, 15 inch ear, No. 625..... .80

No 34, " " 15 " " " 621 (J-P)..... .80

EARS.

Our trolley ears for soldering are constructed with deep groove, thoroughly tinned, full length of ear. The deep groove is a valuable feature, as the trolley wire is held with exceptional security.

No. 605,	Plain Ear,	7	in. long,	7/16	in. stud	(swivel).....	$	.23
No. 615,	"	9	" "	⅝	" "	(straight line).....		.30
No. 620,	"	9	" "	⅝	" "	(pull-over).....		.33
No. 621,	"	15	" "	⅝	" "	(J-P).....		.40
No. 625,	"	15	" "	⅝	" "	(straight line).....		.40
No. 630,	"	15	" "	⅝	" "	(pull-over).....		.42
No. 631,	"	15	" "	⅝	" "	(Pound-on straight line)		.40
No. 632,	"	15	" "	⅝	" "	(Pound-on pull-over)		.42

NOTE.—The "Pound-on" ears are furnished with extra deep groove not tinned, for bending or pounding on over trolley wire.

STRAIN EARS.

No. 650,	Strain Ear,	12	in long,	7/16	-in. stud	(swivel).....	$	.50
No. 652,	"	15	" "	⅝	" "	(standard)..		.66

FEED-IN EARS.

No 660. Feed-in Ear, 10 in. long, $\frac{7}{16}$-in. stud (swivel).... 50c.
No. 662, " " 10 " " $\frac{5}{8}$ " " (standard) 50c.
No 665, " " 15 " " $\frac{5}{8}$ " " " 56c.

SPLICING EARS.

No. 680 Splicing Ear, 15 in. long, $\frac{7}{16}$-in. stud..... 75c.
No. 682, " 15 " " $\frac{5}{8}$ " " ..... 75c.

"H. W J." MECHANICAL CLIP.

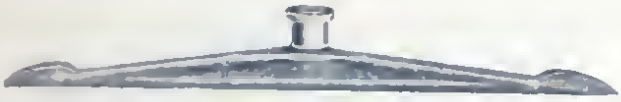
(PATENTED.)

This clip consists of a single casting and is easily attached by simply springing the trolley wire into place. It is a cheap and effective device and works practically without sparking.

No. 710, "H. W. J." Clip, $\frac{7}{16}$ inch stud, brass..... 35c.
No 712 " " $\frac{5}{8}$ " " " ..... 35c.

ALLEN MECHANICAL EAR.

(PATENTED.)



This ear combines the features of both a soldered ear and a mechanical clip. It has proven most satisfactory in use and is highly recommended, also, for pull-overs on account of its length and great strength.

No. 706. Allen Mechanical Ear, brass, $\frac{5}{8}$ in. stud.....75c.

GUARD-WIRE INSULATOR.

(PATENTED.)

This Moulded Mica insulator carries the guard wires, and is the strongest and most compact device ever offered for this purpose.

No. 750 Guard-wire Hanger..... 20c.

GUARD-WIRE PULL-OFFS.

Consist of malleable iron castings and porcelain insulators.

No. 751, Single guard-wire pull-off..... ..... 20c.
No. 752, Double " " " ..... 20c.

GLOBE STRAIN INSULATORS.

(PATENTED.)

The medium size Globe Strain Insulator is suitable for the lighter guys and the small size for cutting out lengths of guard wire, etc. They are not recommended for the insulation of span wires.

Furnished in "Monarch."

No. 809, Medium Globe Strain, 2 inches diameter..... 40c.
No. 810, Small " " 1¾ " " ..... 25c.

N. B.—The No. 1 and No. 2 Giant Strain Insulators (see pages 12 and 13) have taken the place of the Large Globe formerly sold.

GLOBE STRAIN INSULATOR,

WITH CLEVIS.

(PATENTED.)

These are the same as the Globe Straius mentioned above made with clevis for attachment to overhead switches, etc.

Furnished in "Mouarch."

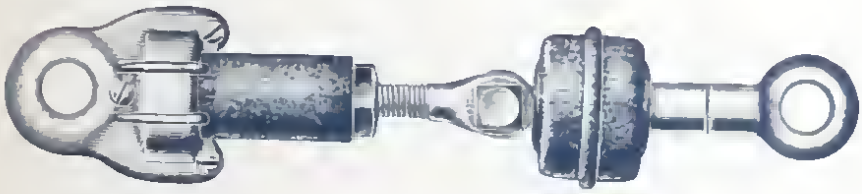
No. 821, Large Globe Strain, with clevis..... 65c.
No. 822, Medium " " " " ..... 50c.

BROOKLYN STRAIN INSULATOR.

This Strain Insulator is powerful and durable, has three inches take-up, and is especially recommended for the insulation of span wires. The fixed eye is ¾ inch diameter for attachment to holt in pole strap. The insulation is Moulded Mica. Furnished in hoth malleahle iron and hrass.

No. 803, Brooklyn Strain Insulator, hrass..... $1.65
No. 804, " " with Clevis end, hrass..... 1.80
No. 805, " " Insulator, malleable iron..... 1.00
No. 806, " " with clevis, " " 1.28

BROOKLYN STRAIN WITH FEEDER ATTACHMENT.

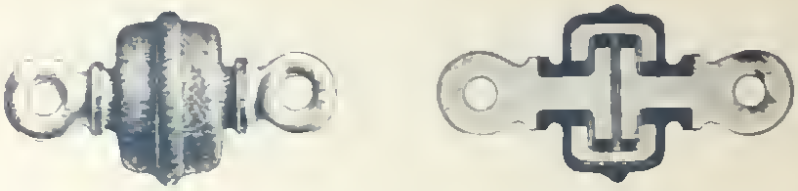


This insulator affords a reliahle double insulation for feed wire spans. It consists of the Brooklyn Strain with clevis-end, and the No. 1 Giant Strain Insulator, with large eye.

No. 838, Brooklyn Strain with Feeder Attachment, with hrass Brooklyn Strain..... $2.70
No. 840, Brooklyn Strain with Feeder Attachment, with malleahle iron Brooklyn Strain..... ..... 2.15

No. 1 GIANT STRAIN INSULATORS.

(PATENTED.)



The Giant Strain Iusulators have become standards in the market, having largely superseded other forms for similar purposes. Sheet Mica furnishes the insulation for all parts under strain; other parts and the exterior are insulated with Moulded Mica. Average breaking strain 8,000 lbs.

No. 830, No. 1 Giant Strain insulator..... 78c.
No. 831, " " " " with 5/8 in. nut one end... 85c.
No. 841, " " " " " " " both ends.. 90c.

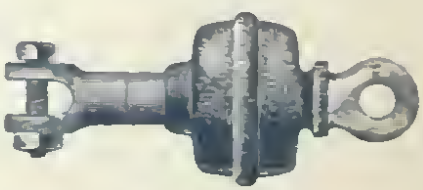
No. 1 GIANT STRAIN WITH LARGE EYE.

The small eye is 1 1/8 inch diameter; the large eye is 7/8-iuch diameter.

No. 832, No. 1 Giant, with large eye oue end..... ..... $1.00
No. 842, " " " " " both ends..... 1.15
No. 843, " " " " " and 5/8-inch nut..... 1.00
No. 846, " " " " " and clevis..... 1.25

No. 1 GIANT STRAIN WITH CLEVIS.

The jaws of the clevis have a spread of 5/8 inch. The cut represents the jaw with 3/8 inch bolt. The jaw with 1/2 iuch bolt has a 5/8 inch opeuing behind the bolt, which permits its use with the largest eye-bolts.



(See illustration top page 11)

No. 833, No. 1 Giant, with clevis one end, 3/8 in. bolt.... $1.00
No. 834, " " " " " " 1/2 " " 1.00
No. 846, " " " " and large eye..... ..... 1.25

No. 1 GIANT STRAIN FEED-IN INSULATOR.

Consists of a special combination of No. 1 Giant Strain Insulators, thus providing a substantial double insulation when the feed wire is used for the span wire.

No. 844, No. 1 Giant Double Feed-In Insulator $2.35

No. 2 GIANT STRAIN INSULATOR.

(PATENTED.)

This insulator is similar in construction to the No. 1 Giant Strain Insulator. It is smaller in size. Average breaking strain, 5,000 lbs.

No. 826, No. 2 Giant Strain Insulator..... 54c.
No. 823, with ½-inch nut one end..... 54c.
No. 824, " " " both ends..... 60c.

WITH CLEVIS AND LARGE EYE.

No 825.

No

No. 825, No. 2 Giant with clevis one end ..... 80c.
No. 828, " " " large eye one end..... 69c.
No. 829, " " " " " both ends..... 60c.
No. 850, " " " ½-inch nut and clevis..... 84c.
No. 851, " " " " " " large eye..... 84c.
No. 852, " " " clevis and large eye..... 90c.

FEED-WIRE INSULATORS.


No. 900.


No. 902.


No. 905.


No. 904.

Nos. 900, 901 and 902 are of solid Moulded Mica. Nos. 904, 905 and 906 consist of metal shells insulated with Moulded Mica. Threaded for one inch standard pin.

No. 900, Plain Pole insulator, for 0000 B & S..... 75c.
No. 901, "Top Groove" 1½ in. diameter for 500,000 C. M. 90c.
No. 902, " " 1¼ in. " " " " 90c.
No. 904, "Iron-Clad," plain top, for 500,000 C. M..... 65c.
No. 905, " " 1¼ inch top groove, for 500,000 C. M..... 65c.
No. 906, "Iron Clad," ⅞ inch top groove, for 0000 B. & S. 65c.

THE GRAUTEN RAIL BOND.

(PATENTED.)


No. 1.


No 2.


No. 3.

This is a convenient, simple and permanent bond, made of composition metal and is furnished with single or double grooves for bonding with single or double 00 B. & S. wire. The hub is cup shaped for rivetting and will be made any desired size.

No. 1, Grauten rail bond, double groove..... 9½c.
No. 2, " " " connector..... 7½c.
No. 3. " " " single groove..... 7½c.

Special prices quoted for quantity.

Eye-Bolts,
Fork-Bolts, porcelain insulated,
Trolley Wheels,

Prices quoted upon application.

★ TROLLEY WIRE SPLICING SLEEVES.

These sleeves enable the linemen to repair a break in five or ten minutes. The joint is a mechanical one, no solder being required.

DIRECTIONS FOR MAKING JOINT.

Insert the ends of the wires in the sleeve, or tube, and push the wedges firmly into place on either side of the wire; let go of wire and the joiut is made.

Furnished in all sizes, from No. 4 to oo wire. Unless otherwise specified, No. o B & S., will invariably be sent in filling orders.

K. & I. mechanical splicing sleeve.....75c.

SECTION INSULATORS.

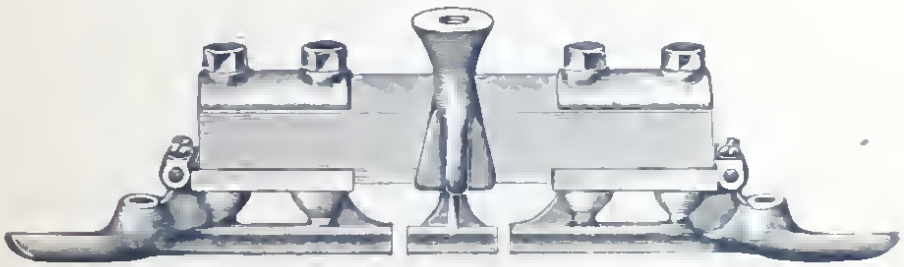
★ THE PHILADELPHIA.

(PATENTED)

Has a straight under-run, suitable for high speeds, and a fibre-insulated break over eight inches in the clear. It is light in weight and has proved its efficiency on the "line." Weight, 4½ lbs. (Specify whether for o or oo B & S. trolley wire)

No. 956, Philadelphia Break, for side wire attachment... $6.50
No. 957, " " with ⅝-inch socket for attachment to hanger..... 6.50

THE GRAUTEN.



Has a straight under run and is proportioned for severe strains. The insulation is hard maple. Weight, 5 lbs.

No. 958, Grauten Break, wood, with ⅝-in. socket..... $5.75
No. 959, " " " for side wires 5.75

FROGS.

STRAIGHT UNDER-RUN.

These frogs are designed for high speed and straight under running of the trolley wheel. They are well braced and extra strong to avoid buckling. Furnished for oo B. & S., if specified.

No. 963, Frog, straight under-run, right hand (K)..... $4.00
No. 964, " " " left " (L) 4.00
No. 965, " " " standard (M). 4.00

"NOISELESS" FROG.

These frogs are designed to prevent pounding and arcing and to meet the practical requirements of the "line." The switch points allow generous room for the passage of the trolley wheel without striking or jumping.

No. 960, "Noiseless" Frog, right hand (A)..... $3.50
No. 961, " " left hand (B)..... 3.50
No. 962, " " standard (C)..... 3.50

"J-P" FROGS.

These frogs have large pan and ample space for passage of trolley wheel. They are simple in construction, and possess all the features of a perfect frog.

No. 973, "J-P" Frog, right hand $3.50
No. 974 " " left hand..... 3.50
No. 975, " " standard..... ..... 3.50

CROSSINGS.

Plain brass right angle and adjustable Crossings, light and strong, and simple in construction

No. 966, Right angle crossing. ——— $3.80
No. 968, Adjustable ——— 4.30

★ PHILADELPHIA INSULATED CROSSINGS.

These crossings are insulated in the same efficient manner as the Philadelphia break. They require no cutting of the trolley wires.

No. 969, The Phila right angle insulated crossing. $18.00
No. 972, " " adjustable ——— 21.00

★ ALLEN INSULATED CROSSING.

Is readily put in place without cutting the trolley wires. Is light in weight and an efficient insulator.

No. 970, Allen insulated crossing, complete with hood $14.00
No. 972, " Adjustable, complete with hood ——— 16.00

TREE INSULATORS.

(HAWKEN PATENT.)

These insulators offer valuable protection against the dangers and losses which result from the abrasion of electric light and feeder wires. They are furnished in wood, saturated with a preservative compound, and in Moulded Mica, in halves, and are readily attached to the wire and held in place, as illustrated in the cuts. The insulation of the wire is thus preserved indefinitely and all danger averted. Thousands in use by electric railway and lighting companies.

MOULDED MICA TREE INSULATORS.

No. 1001,	Size,	⅜-inch ;	6	inches	long	30c.
No. 1002,	"	⅝ "	6½	"	"	40c.
No. 1003,	"	¾ "	7	"	"	50c.
No. 1005,	"	1¼ "	8	"	"	85c.

WOODEN TREE INSULATORS.

(HAWKEN PATENT.)

No. 1006,	Size,	⅜-inch ;	12	inches	long	28c.
No. 1007,	"	⅜ "	18	"	"	33c.
No. 1008,	"	⅝ "	13½	"	"	32c.
No. 1009,	"	⅝ "	18	"	"	36c.
No. 1010,	"	¾ "	13½	"	"	32c.
No. 1011,	"	¾ "	18	"	"	36c.
No. 1012,	"	1¼ "	13½	"	"	44c.
No. 1013,	"	1¼ "	18	"	"	48c.

Special sizes and lengths made to order.

NOTE. The above sizes of Tree Insulator are usually adapted for the following sizes of insulated wire:

Size	⅜	inch	for	No. 6	B. & S.	
"	⅝	"	"	00	"	
"	¾	"	"	0000	"	
"	1¼	"	"	500000	C. M.	

★ MOULDED MICA WEATHER-PROOF KEYLESS LAMP SOCKETS.

These sockets are water proof at top and for the use of a suitable packing a water tight joint at entry at the lower opening. Sockets furnished either [illegible]. Thousands in use in paper mills, breweries, laundries, creameries and other damp situations. These sockets will be furnished with lead covered wires at an additional cost if desired. They are not recommended for a temperature greater than [illegible].

Extra lengths of leads longer than [illegible] only with Thomson-Houston [illegible].

Price of Sockets with 6 in. leads [illegible]

PRICES OF SOCKETS, WITH EXTRA LENGTH WIRES.

[illegible] THOMSON-HOUSTON [illegible]

Sockets with wires 6 inches long, each [illegible]

" " 12 "	[illegible]
" " 18 "	[illegible]
" " 24 "	[illegible]
" " 30 "	[illegible]
" " 3 feet	[illegible]
" " 4 "	[illegible]
" " 5 "	[illegible]
" " 6 "	[illegible]
" " 7 "	[illegible]
" " 8 "	[illegible]
" " 10 "	[illegible]

MOULDED MICA LAMP SOCKET.

FOR BRACKET FIXTURE.

Threaded for standard ⅛-inch pipe. Furnished in brown or black with Thomson-Houston and Edison bases and 6-inch leads; longer lengths of lamp cord, extra.

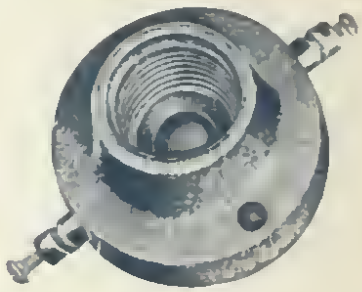
Price... ..... 50c.

MOULDED MICA WALL SOCKET.

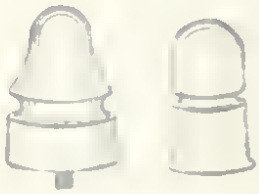
FOR SIGN AND DECORATIVE WORK.

Furnished in brown and black, with Edison base only.

Price.. ..... 40c.



MOULDED MICA INSULATORS.



SPECIAL FORMS.

These and other special forms manufactured to order only.

RAILWAY CONDUIT INSULATORS.

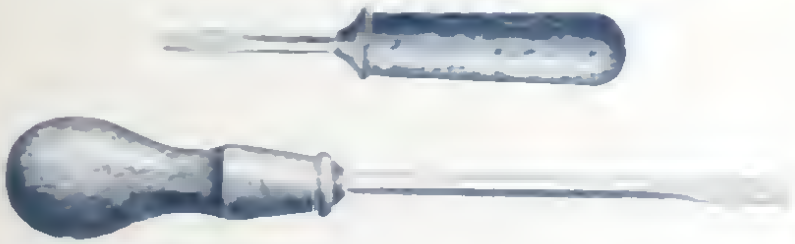
Moulded Mica is used for insulating electric wires throughout the most prominent conduit railway systems.

★ INSULATED PLIERS.

The above cut is furnished by Messrs. Peck, Stowe & Wilcox, of Southington, Conn., with whom we have made exclusive arrangements for the manufacture of Vulcan Mica Insulated Pliers.

Vulcan Safety Side Cutting Pliers, per doz.	$
" " " " "	
" " " " "	
" " Insulated Rings	

★ "VULCAN" INSULATED SCREW-DRIVERS.



MANUFACTURED FOR THE QUICKEST WORK IN ELECTRICAL WORK

Sizes					
Price	$6	$	$	$	

The above tools are for the use of Linemen, Electricians and others who have to do with electrical machinery and the handling of heavily charged wires. The Mica Insulating Insertions, with which the handles are covered, is unquestionably one of the best insulators known. It offers the greatest protection possible with tools of this character which are used. Every electric car and lighting and power station should be completely provided with these insulated tools.

MOULDED MICA.

SPECIAL PIECES.

Moulded Mica, in addition to its widespread use in the insulation of trolley lines during the past seven years, has also had numerous applications in special form for the insulation of a great variety of electrical apparatus. It is a hard, dense, water-proof compound, moulded under great pressure, and is intrinsically one of the best insulating compounds known for electrical purposes. It is a most suitable and durable material for use in temperatures not over 150° F.

As usually employed in trolley line insulators, Moulded Mica is brown in color; when made for special purposes it is furnished in black, upon request, and possesses a highly ornamental polish and finish. Parts made of it are, therefore, valuable for assembling with metal and other parts. Metal parts can be most advantageously moulded within this material, the Moulded Mica adhering tenaciously to them.

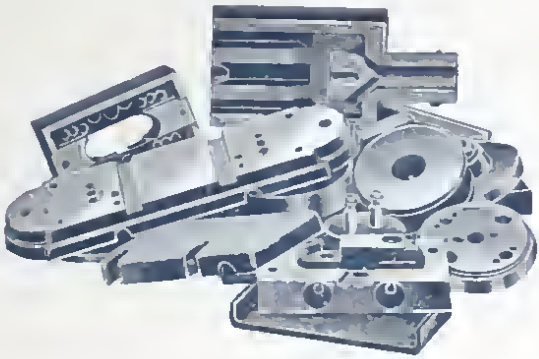
It is largely used for weather-proof sockets, switch bases, cut outs, bases for instruments, spools or bobbins, bushings, washers, telephone bases and cases, and similar apparatus; also for covering the handles of tools, such as screw-drivers and pliers, and many other devices requiring a durable and perfect insulation.

Prices quoted upon receipt of drawing or model.

All moulds and other special tools required for the making of special pieces are the property of the Manufacturers, and are not permitted to leave their possession.

"MONARCH" INSULATING MATERIAL.

SPECIAL PIECES.



"Monarch" insulating material, like Moulded Mica, is made in moulds under great pressure, and is suitable for similar purposes. It is a hard, black composition which has been most successfully used for the moulding of switch blocks, covers, sockets, bushings, thermostat bases, and special pieces requiring accuracy and permanency of dimension and finish. The material is not liable to warp, swell or shrink with ordinary changes of temperature, and is therefore valuable for the above and other purposes. It is suitable for temperatures under 250° F.

Prices quoted upon receipt of drawing or model.

All moulds and other special tools required for the making of special pieces are the property of the Manufacturers, and are not permitted to leave their possession.

VULCABESTON.

(PATENTED.)

Vulcabeston is composed principally of Asbestos and India Rubber, vulcanized. It is exceedingly tough and strong, dense, non-absorbent, resists heat to a high degree, possesses great mechanical resistance to blows and pressure, and is readily manufactured in the forms most useful for electrical purposes.

Vulcabeston is acknowledged to be the standard insulating material for the insulation of dynamos, motors, arc lamps, converters, street car controllers, switches, rheostats, thermostats, and various forms of electrical apparatus. Its qualities recommend it for such insulating parts as magnet spools, bushings, washers, commutator rings and sleeves, controller parts, and numerous irregular shapes for special requirements. One of the most valuable applications of Vulcabeston is its utilization for the covering of armatures, thus affording the most perfect insulation.

Vulcabeston Packing, for steam and other purposes, is also a standard article. This is composed materially as above described, with the addition of lubricants, which render it pliable and yielding.

For further description and prices, see special pamphlet.

All moulds and other special tools required for the making of special pieces are the property of the Manufacturers, and are not to be taken from the factory.

VULCABESTON

(PATENTED.)

FOR ELECTRICAL PURPOSES.

As this material is moulded into the various forms in which it is required, the drilling and turning necessary in most of the materials now used for electrical work are avoided.

Prices will be furnished upon application accompanied with full particulars.

Samples for testing furnished upon request.

VULCABESTON INSULATING SHEETS.

We supply Vulcabeston in sheets, 34x34 in., and any desired thickness from $\frac{1}{64}$ inch to one inch.

$\frac{1}{8}$-in. thick and upward, per lb..... $ .80
$\frac{1}{16}$-in. thick and less than $\frac{1}{8}$, per lb..... 1.10
$\frac{1}{32}$-in. thick and less than $\frac{1}{16}$, per lb..... 1.50
Less than $\frac{1}{32}$-in., sheets 12x12 in., per sheet..... .40

The approximate weights, per sheet, are as follows:

$\frac{1}{32}$ inch, 2¾ lbs.		$\frac{3}{16}$-inch, 13 lbs.	
$\frac{1}{16}$ "	5 "	¼ "	16 "
$\frac{3}{32}$ "	6 "	⅜ "	24 "
⅛ "	8 "	½ "	30 "

These insulating sheets are used for lining cut-out boxes and rheostats, for switch bases, insulating armature grooves and sections, for fire-proofing electrical apparatus, &c.

VULCABESTON FIELD MAGNET SPOOLS.

FOR GENERATORS AND MOTORS.

Vulcabeston Magnet Spools are among our most valuable products. They consist entirely of an insulating material, and therefore possess advantages not found in insulated metal spools. Vulcabeston has proved its superiority for this purpose. It is strong, tough and durable, and moisture will not condense upon its surfaces The spools are very light in weight, are perfect in dimension and finish, and occupy a minimum of the space available for the maguet wire. Many thousand Vulcabeston spools have been used in stationary and street car motors.

Improved facilities and long experience enable us to furnish Vulcabeston spools for all purposes, superior in quality and finish to any produced heretofore.

VULCABESTON ARC LAMP INSULATION.

Vulcabeston bushings, washers, spools and special parts have been very generally used in arc lamps, owing to the toughness, durability, and heat-resisting qualities of the material.

Vulcabeston is especially useful for the regulator spools and plungers in alternating arc lamp apparatus, as the material is not subject to the heating effects of induction, and the bore and insulated core of the plunger offer perfectly smooth working surfaces, thus assuring smoothness and nicety of regulation.

Prices furnished upon receipt of particulars.

All moulds are the property of the Manufacturers.

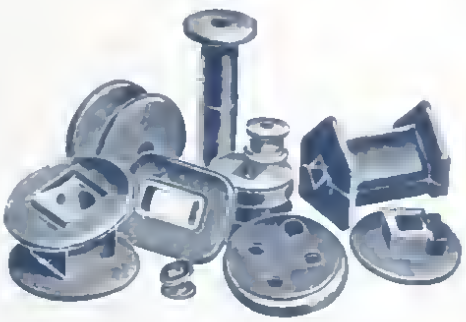
VULCABESTON CONTROLLER PARTS.

One of the most noteworthy acknowledgments of the superiority and practical ability of Vulcabeston to meet the severest requirements has been its unanimous adoption for the complete insulation of the Street Car Controllers of the several manufacturers.

COMMUTATOR RINGS AND SLEEVES.

These parts have been largely used for the insulation of dynamos and motors and are among our most valuable products.

VULCABESTON BUSHINGS, WASHERS, &c.



Vulcabeston is tough and strong, neither swells nor shrinks, is exceptionally heat-proof and is very durable. For these reasons it is peculiarly valuable for brush holder and other bushings, washers and other parts in dynamos, motors, arc lamps, and electrical apparatus, where the insulation is subject to high temperatures and mechanical strain.

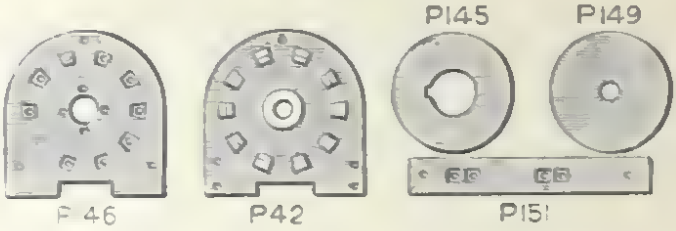
For prices see following pages.

All moulds are the property of the Manufacturers.

WESTINGHOUSE

VULCABESTON CONTROLLER PARTS.

No. 14 CONTROLLER PARTS.

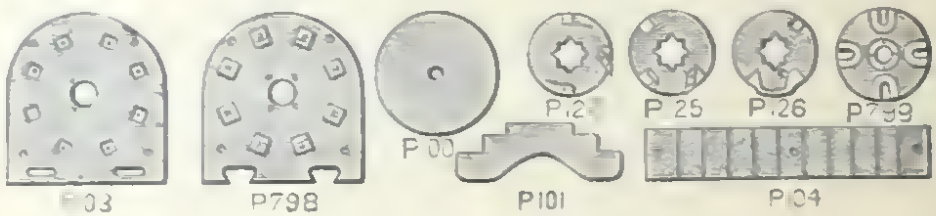


P 145	Vulcabeston piece		$ .99
P 146,	"	"	2.85
P 149,	"	"	1.14
P 151,	"	"	1.35
P 421.	"	Reversing Switch Back, complete.	9.60

"D" CONTROLLER PARTS.

P 100.	Vulcabeston Disc		1.20
P 101	"	Partition	.99
P 104.	"	Plate	2.70

"G" CONTROLLER PARTS.



P 100.	Vulcabeston Disc		1.20
P 101,	"	Partition	.99
P 103.	"	Base-board	4.35
P 104,	"	Plate	2.70
P 122.	"	with Contact Pieces, each	2.22
P 125.	"	" " " "	2.13
P 126.	"	" " " "	2.49
P 798	"	Reversing Switch Base, complete,	5.94
P 799.	"	" Drum	3.27

VULCABESTON PARTS FOR WESTINGHOUSE MOTORS.

PARTS No. 12 MOTORS.

P 950, Vulcabeston Brush Holder Bushing, to insulate arm from motor casting, per set of two halves.. $1 74

P 3. Vulcabeston Ring for end of commutator $1.80


P3

PARTS No. 3 MOTORS.

P 3. Vulcabeston Commutator Ring..... 1.80

VULCABESTON PARTS FOR MOTORS OF THE GENERAL ELECTRIC CO.

BRUSH HOLDER BUSHINGS.

S 5058, For Nos. 6, 8 and 14 Edison Motors... $ .75


S 5058

COMMUTATOR RINGS FOR G. E. 800 MOTORS.

Mould No. 671, for ring armature..... $2.25

" " 715 " drum " 1.60


NO 800

Vulcabeston Field Magnet Spools for Sprague & Edison Street Car Motors.

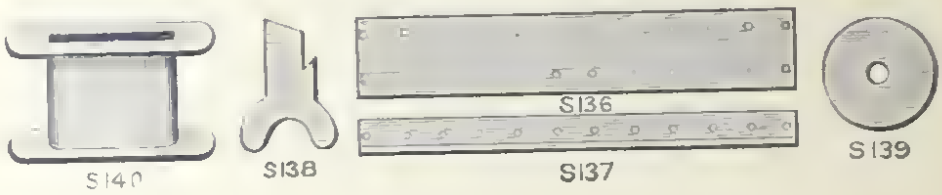
S 5002.	Spool for No.	6,	S. C. Motors.....		$2.50
S 5003.	" " "	8,	" "		2.50
S 5005.	" " "	12. N. S.,	" "		9 60
S 5006,	" " "	14. O. S.,	" "		7 90
S 5007.	" " "	14, N. S.,	" "		6.75
S 5005.	" " "	16. N. S.,	" "		9.60

VULCABESTON PARTS FOR CONTROLLERS

OF THE

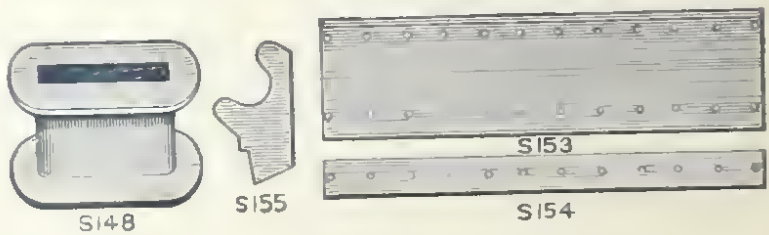
GENERAL ELECTRIC CO.

For Type "E" Controller.



S 136, Wide Strip	1.00
S 137, Narrow "	.50
S 138, Arc Arrestors	.30
S 139, End Shields	.63
S 140, Spool	2.00

For Type "K" Controller.



S 148, Spool	1 90
S 153, Broad Strip	1.50
S 154, Narrow "	.55
S 155, Arc Arrestors	.40

ASBESTOS

Asbestos has had universal application in the electrical, chemical and mechanical arts. It is unique in its fire and acid-proof qualities, which render it peculiarly valuable for many purposes. It is also an insulator of electricity and in the manufacture of electrical apparatus, such as dynamos, motors, arc lamps, switches, rheostats, etc. its insulating, heat-resisting and fire-proof qualities are utilized to great advantage. For these purposes we furnish Asbestos in the forms of a sheathing or paper, mill-board tubes, cloth, twine, etc.

Asbestos is also used for fire-proofing woodwork and combustible materials in the vicinity of electric wires and machinery, for lining cut-out and fuse boxes, switches, rheostat cases, etc.

We have for many years made a specialty of the manufacture of Asbestos in all its useful forms, and by continued improvement in processes and the invention of new methods and machinery, are enabled to furnish a great variety of Asbestos products suitable for special purposes.

For the full list of our Asbestos and other goods, see *Descriptive Price List*, for a summary of the contents of which see page 32 of this book.

Paints, Colors, Etc.

H. W. JOHNS' LIQUID PAINTS
ROOF AND RAILWAY PAINTS
FIRE-PROOF PAINTS
LIQUID COACH COLORS
COLORS IN OIL
SHINGLE AND WOOD STAINS.

Roofing and Building Materials.

ASBESTOS ROOFING
ROOF COATINGS AND CEMENTS
ASBESTOS BUILDING FELT
ASBESTOS SUPERATOR.
ASBESTOS WATER-PROOF SHEATHING

Steam Pipe and Boiler Coverings.

ASBESTO-SPONGE CEMENT FELTING
ASBESTOS SECTIONAL PIPE COVERINGS
ASBESTOS FIRE-FELT, LOCOMOTIVE LAGGING, ETC.
ASBESTO-SPONGE FELT, FILLING, ETC.
ASBESTOS SUPERATOR.

Steam Packings.

ASBESTOS ROPE PACKING
ASBESTOS WICK PACKING
ASBESTOS SHEET PACKING
VULCANIZED ROPE PACKING
ASBESTOS AND RUBBER CLOTH, TAPE, GASKETS, ETC.

Asbestos Fabrics, Etc.

ASBESTOS CLOTH FOR THEATRE CURTAINS, ETC.
FIRE-PROOF ROPE FOR FIRE ESCAPES, ETC.
FIRE-PROOF CORD, TWINE, RUGS, MATS, SCREENS, ETC.

Fire-Proof Cements and Coatings.

ASBESTOS FURNACE CEMENT
ASBESTOS RETORT CEMENT
PLASTIC STOVE LINING
CONCRETE COATING, ETC.

Vulcabeston.

ELECTRICAL INSULATING SHEETS, MAGNET SPOOLS, CONTROLLER PARTS, ETC.
MOULDED GASKETS, UNION WASHERS, PACKING RINGS
PUMP VALVES, STEAM PACKING, ETC.

Moulded Mica.

ELECTRIC RAILWAY INSULATING MATERIALS, ETC.

H. W. JOHNS MANUFACTURING COMPANY

87 MAIDEN LANE, NEW YORK

NEW YORK JERSEY CITY CHICAGO
PHILADELPHIA BOSTON LONDON

5-21-05. 873.

H. W. JOHNS M'F'G CO.

170-172 NORTH 4th ST., PHILADELPHIA.

NEW YORK, 87 Maiden Lane.

JERSEY CITY, 239-241 Washington St.

BOSTON, 119-121 Federal St.

CHICAGO, 240-242 Randolph St.

LONDON, 88 Leadenhall Street.